



**Geoscience LTD**  
LABORATORY TESTING DIVISION

6260-B Marindustry Drive

San Diego, CA 92121

ORIGINAL

**PROPERTY CERTIFICATION**

CLIENT: WINCO Technologies  
8, rue du Boisillion  
22950 TREGUEX

DATE: October 8, 2010

**MATERIAL INVESTIGATED:**

SKYTECH Insulation installed in a 64" X 64" X 7.5" test frame with only two split studs spaced 32" apart. This system creates two 3.6" thick air spaces, each having a low emissivity surface; thin foam convection guards that completed the metering box zone also installed including 3/8" thick plywood cover sheets.  
PO # 910

**PROPERTY MEASURED:**

The R value for this system (simulated attic) for heat flow down

**MEASUREMENT METHOD:**

Guarded Hot Box (ASTM C-236 ( C-1363))

**RESULTS: \***

$$t_{\text{mean}} = 76.8^{\circ}\text{F}$$

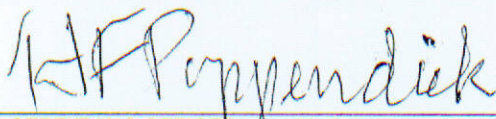
$$t_{\text{hot}} - t_{\text{cold}} = 46.7^{\circ}\text{F}$$

$$q = 24.23 \text{ Btu/hr}$$

$$A = 7.111 \text{ ft}^2$$

$$R \text{ value} = 13.70 \text{ hr ft}^2\text{F/Btu (heat flow down)}$$

\* Details of the investigation are not included in this Property Certification; the results presented here apply only to the samples tested.

  
CERTIFYING OFFICER: H. F. Poppendiek





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San Diego, CA 92121

ORIGINAL

**PROPERTY CERTIFICATION**

**CLIENT:** WINCO Technologies  
8, rue du Boisillion  
22950 TREGUEX

**DATE:** October 12, 2010

**MATERIAL INVESTIGATED:**

SKYTECH Insulation installed in a 64" X 64" X 7.5" test frame with only two split studs spaced 32" apart. This system creates two 3.6" thick air spaces, each having a low emissivity surface; thin foam convection guards that completed the metering box zone also installed including 3/8" thick plywood cover sheets.  
PO # 910

**PROPERTY MEASURED:**

The R value for this system for a wall case (heat flow horizontal)

**MEASUREMENT METHOD:**

Guarded Hot Box (ASTM C-236 ( C-1363))

**RESULTS: \***

$$t_{\text{mean}} = 77.5^{\circ}\text{F}$$

$$t_{\text{hot}} - t_{\text{cold}} = 46.6^{\circ}\text{F}$$

$$q = 44.03 \text{ Btu/hr}$$

$$A = 7.111 \text{ ft}^2$$

$$R \text{ value} = 7.53 \text{ hr ft}^2\text{F/Btu (heat flow horizontal)}$$

\* Details of the investigation are not included in this Property Certification; the results presented here apply only to the samples tested.

*H F Poppendiek*

CERTIFYING OFFICER: H. F. Poppendiek





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San Diego, CA 92121

ORIGINAL

**PROPERTY CERTIFICATION**

**CLIENT:** WINCO Technologies  
8, rue du Boisillion  
22950 TREGUEX

**DATE:** October 15, 2010

**MATERIAL INVESTIGATED:**

SKYTECH Insulation installed in a 64" X 64" X 7.5" test frame with only two split studs spaced 32" apart. This system creates two 3.6" thick air spaces, each having a low emissivity surface; thin foam convection guards that completed the metering box zone also installed including 3/8" thick plywood cover sheets.  
PO # 910

**PROPERTY MEASURED:**

The R value for this system (simulated attic) for heat flow up

**MEASUREMENT METHOD:**

Guarded Hot Box (ASTM C-236 ( C-1363))

**RESULTS: \***

$$t_{\text{mean}} = 77.6^{\circ}\text{F}$$

$$t_{\text{hot}} - t_{\text{cold}} = 45.3^{\circ}\text{F}$$

$$q = 52.56 \text{ Btu/hr}$$

$$A = 7.111 \text{ ft}^2$$

$$R \text{ value} = 6.13 \text{ hr ft}^2\text{F/Btu (heat flow up)}$$

\* Details of the investigation are not included in this Property Certification; the results presented here apply only to the samples tested.

H. F. Poppendiek

CERTIFYING OFFICER: H. F. Poppendiek

ORIGINAL

### Concluding Comments

The measured R values for the heat flows in the three directions are in reasonable agreement with predicted values for low foil surface emissivities. Also note, that the measured R values of the heat flow horizontal and up are expected to be significantly lower than the R value for heat flow down because of the convection heat transfer occurring in the heat flow horizontal and up cases.

For: WINCO Technologies  
By: Geoscience Ltd.  
Date: October 18, 2010